

Listing of Claims:

1. (currently amended) An apparatus comprising:
a material source for supplying a material to be deposited;
an atomizer for producing a plurality of discrete particles from said material source
means;
a virtual impactor;
a carrier gas for propelling said plurality of discrete particles generally toward a substrate;
a coflowing sheath gas which surrounds said carrier gas for controlling the direction of
flight of said plurality of discrete particles; and
a single orifice for narrowing a particle stream comprising said coflowing sheath gas, said
carrier gas, and said plurality of discrete particles sufficiently to form a deposited feature comprising a
feature size of less than one millimeter on the substrate.

2-9. (canceled)

10. (previously presented) The apparatus of claim 1 wherein said coflowing sheath gas
forms a boundary layer that prevents said plurality of discrete particles from depositing onto walls of an
orifice nozzle.

11. (previously presented) A method of direct writing of a material, the method comprising the steps of:

supplying the material to be deposited;
atomizing the material to produce a plurality of discrete particles;
applying a force by employing a carrier gas to propel the plurality of discrete particles generally toward a substrate;
collimating the plurality of discrete particles by surrounding the carrier gas with a coflowing sheath gas to control the direction of flight of the plurality of discrete particles;
subsequently passing the particles through no more than one orifice; and
depositing the plurality of discrete particles on the substrate to form a deposited feature comprising a feature size of less than one millimeter.

12. (previously presented) The method of claim 11 additionally comprising the step of sorting the plurality of discrete particles by size.

13. (previously presented) The method of claim 12 wherein the sorting step comprises employing one or more virtual impactors.

14-19. (canceled)

20. (previously presented) The method of claim 11 further comprising the step of the coflowing sheath gas forming a boundary layer, thereby preventing the plurality of discrete particles from depositing onto walls of an orifice nozzle.

21. (canceled)

22. (currently amended) The apparatus of claim 24 1 wherein said virtual impactor is placed after said atomizer.

23. (previously presented) The apparatus of claim 22 wherein said virtual impactor extracts excess carrier gas without substantially reducing the number of said discrete particles.

24. (previously presented) The apparatus of claim 22 wherein said virtual impactor sorts said plurality of discrete particles by size.

25. (previously presented) The apparatus of claim 22 further comprising two or more virtual impactors placed in series.

26. (previously presented) The apparatus of claim 1 further comprising a laser for processing said discrete particles.

27. (previously presented) The method of claim 11 further comprising the step of extracting excess carrier gas without substantially reducing the number of said discrete particles.

28. (previously presented) The method of claim 27 wherein the extracting step comprises employing a virtual impactor.

29. (previously presented) The method of claim 11 further comprising the step of placing two or more virtual impactors in series.

30. (previously presented) The method of claim 11 further comprising the step of processing the discrete particles with a laser.